

Information Technology R&D Crosscut for the President's FY2001 Budget

May 18, 2000

**Dr. Ruzena Bajcsy
Assistant Director
Computer and Information Sciences & Engineering
National Science Foundation**

**Chair, Interagency Working Group for IT R&D
National Science and Technology Council**

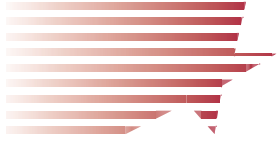


IT R&D Budgets by Agency

FY2000 Enacted/FY2001 Request

Amounts in Millions

	FY2000 Estimate	FY2001 Proposed	FY 00 – 01 % Change
National Science Foundation	517	740	43%
Dept. of Energy	517	667	29%
Office of Science	120	190	58%
Accelerated Strategic Computing Initiative	397	477	20%
Dept. of Defense	282	397	41%
Defense Advanced Research Projects Agency	195	307	57%
National Security Agency	77	80	4%
University Research Initiatives	10	10	-
Dept. of Health Human Services	191	233	22%
National Institutes of Health	183	217	19%
Agency for Healthcare Research & Quality	8	16	100%
NASA	174	230	32%
Dept. of Commerce	36	44	22%
NIST	18	24	33%
NOAA	18	20	10%
Environmental Protection	4	4	-
TOTAL, IT R&D	1,721	2,314	35%



IT R&D by Program Component Area

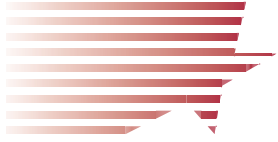
PCA	FY2000 Enacted	FY2001 Request
LSN (includes NGI)	\$276	\$319
NGI	\$82	\$104
HEC R&D	\$165	\$238
HEC A&I	\$458	\$647
HCSS	\$92	\$98
HCI & IM	\$230	\$335
SDP	\$59	\$135
SEW	\$45	\$65
Subtotal	\$1,325	\$1,837
DoE ASCI	\$397	\$477
Total	\$1,722	\$2,314

LSN	Large Scale Networking
NGI	Next Generation Internet
HEC R&D	High End Computing Research and Development
HEC A&I	High End Computing Applications and Infrastructure
HCSS	High Confidence Software and Systems
HCI & IM	Human Computer Interaction and Information Management
SDP	Software Design and Productivity
SEW	Social, Economic, and Workforce Implications



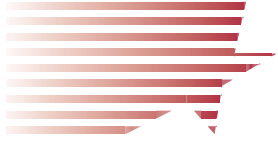
FY2001 IT R&D Budget Status

- Congress has responded favorably to the proposed increases in IT R&D
 - Networking and Information Technology R&D Act, H.R. 2086, passed by the House February 15, 2000
 - Amends the HPCC act to authorize research at NSF, NASA, NIH, DoE, NIST, NOAA, and EPA for FY2000 - FY 2004
 - Next moves to the Senate, where legislation would be referred to the Committee on Commerce, Science, and Transportation, chaired by Sen. John McCain
 - Next Generation Internet 2000 Act, S. 2046, introduced by Senator Bill Frist, Chair of the Science, Technology, and Space Subcommittee
 - Would amend the HPC Act of 1991 to authorize appropriations to carry out the Large Scale Networking activities of the IT R&D programs, including NGI, for FY2000 - FY2003
- ***BUT*** the Congressional budget ceilings could translate into severe cuts for R&D programs



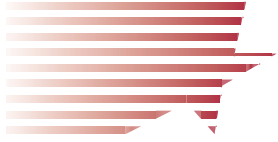
FY2001 IT R&D Budget Status

- Networking and Information Technology R&D, Act H.R. 2086, passed by the House February 15, 2000
 - Amends the HPCC act to authorize research at NSF, NASA, NIH, DoE, NIST, NOAA, and EPA for FY2000 - FY 2004
 - Directs the National Institutes of Health to conduct research toward the advancement and dissemination of computational techniques and software tools in support of its mission of biomedical and behavioral research. Authorizes appropriations for FY 2000 through 2004 for such activities.
 - Earmarks specified amounts of such authorized funds for long-term basic research on networking and information technology, including grants for information technology research centers
 - Authorizes NSF funding to establish terascale computing facilities at one or more sites
 - Authorizes academic supercomputer centers, state-supported supercomputer centers, and supercomputer centers that are supported as part of the federally funded R&D centers to apply for and be awarded such grants
 - Directs NSF to provide grants under the Scientific and Advanced Technology Act of 1992 for information technology education and training grants and internship grants. Requires matching funds. Earmarks funds for such grants for FY 2000 through 2004.



FY2001 IT R&D Budget Status

- Networking and Information Technology R&D, Act H.R. 2086 (cont'd)
 - Directs NSF to establish a research program to develop, demonstrate, assess, and disseminate effective applications of information and computer technologies for elementary and secondary education. Earmarks funds for such grants for FY 2000 through 2004.
 - Authorizes the United States Geological Survey to participate in or support such networking and information technology research and development.
 - Authorizes NSF to enter into an arrangement for the National Research Council of the National Academy of Sciences to conduct a study of privacy on the Internet. Requires NSF to report to Congress on Council findings, conclusions, and recommendations. Authorizes appropriations for: (1) such study; and (2) FY 2001 and 2002 for support by such departments and agencies of the Next Generation Internet Program (research, development, and demonstration of advanced networking technologies to increase Internet capabilities and performance).
 - Requires a previously-established advisory committee on high-performance computing to: (1) conduct periodic evaluations of high-performance computing and networking and information technology research and development programs; and (2) report at least once every two fiscal years to specified congressional committees on its findings and recommendations.



FY2001 IT R&D Budget Status

- Networking and Information Technology R&D, Act H.R. 2086 (cont'd)
 - Directs NSF to study and report to Congress comparing the availability of encryption technologies in foreign countries to such technologies subject to export restrictions in the United States.
 - Requires the NSF Director to conduct a study of, and report to Congress on: (1) high-speed, large bandwidth capacity computer access to all U.S. public elementary and secondary schools and libraries; and (2) accessibility to information technologies by individuals who are elderly, disabled, or elderly and disabled.



FY2001 IT R&D Budget Status

- Next Generation Internet 2000 Act, S. 2046, introduced by Senator Bill Frist, Chair of the Science, Technology, and Space subcommittee
 - Would amend the HPC Act of 1991 to authorize appropriations to carry out the Large Scale Networking activities of the IT R&D programs, including NGI
 - Would authorize funding for FY2000 - FY2003
 - Would require that at least:
 - 10% of authorized amounts to fund research grants into the reduction of Internet access service costs to users in geographically remote areas; and
 - 5% of such amounts for grants to institutions of higher education that are Hispanic-serving, Native American, historically Black, or small colleges and universities
 - Would direct the National Academy of Sciences to study and report to specified congressional committees on the extent to which the Internet backbone and infrastructure contribute to the uneven access to Internet-related technologies and services by rural and low-income Americans, and authorizes appropriations for the study.